

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

REMARKS

Claims 1-14 were pending when a non-final Office Action was mailed on December 9, 2005. Claims 1-14 were rejected.

In view of the amendments and arguments set forth herein, Applicants respectfully submit that all claims pending in this patent application are in condition for allowance. Applicants very respectfully request entry of the Amendment, reconsideration and allowance of all claims, and passage of the application to issuance.

I. CLAIM REJECTIONS – 35 U.S.C. § 112

Claim 1 was rejected under 35 U.S.C. § 112, ¶ 2 as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. The Office Action stated that the omitted elements are the fourth and fifth members that connect the first member with the second and third members of the support member.

Applicants have amended Claims 1 and 11 to include the fourth and fifth members. Applicants respectfully submit that the rejection under 35 U.S.C. § 112 has been overcome. Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 112.

New Claims 34-37 have been added. New independent Claim 34 includes the fourth and fifth members described above. Therefore, Applicants respectfully submit that new Claims 34-37 should not be subject to any such rejections under 35 U.S.C. § 112, ¶ 2.

II. CLAIM OBJECTIONS

Claims 1 and 11 were objected to because of informalities regarding recitation of a support member. Claims 1 and 11 have been amended to recite a first support member and a second support member. Applicants respectfully submit that the amendment to Claims 1 and 11 overcomes the objection regarding the informalities. Applicants respectfully request withdrawal of the objection.

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

New independent Claim 34 recites only one support member. Therefore, Applicants respectfully submit that new Claims 34-37 should not be subject to any such objection.

III. CLAIM REJECTIONS – 35 U.S.C. § 102

Claims 1-14 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,338,130 to Baerveldt.

The Office Action stated that, regarding Claim 1, Baerveldt discloses an expansion joint comprising: a support member including a first generally planar member seen as the upper planar surface of sealing strip (S) in Figure 1, which was stated to have an upper face that is capable of slidably supporting a bottom face of a traffic bearing surface of at least one section of a structure receivable thereon; and second and third generally planar members seen as retaining elements 2 in Figure 1, which were stated to each have an upper face capable of receiving a bottom face of a portion of a bottom surface at least one section of the structure receivable thereon and capable of being attached thereto, the second and third members being vertically spaced-apart from and below the first member (referring to Figure 1 where the top surface of S is above elements 2); and an expansion device interposed between the second and third members seen as the rest of the sealing strip S, including a central portion (seen as the bottom portion of the central part of S in Figure 1) that was stated to be capable of being attached to a support member that supports the bottom surface of the at least one section of the structure thereon, and end portions (seen as the parts of the sealing strip S that extend laterally above the slabs) each having an upper face that receives a bottom face of the second and third members thereon (referring to Figure 1 where the upper face of part of the laterally extending surfaces of S lie directly below the retaining elements 2) and a bottom face that was stated to be capable of being received on an upper face of the support member.

Regarding Claim 11, the Office Action stated that Baerveldt discloses the limitations of the claimed invention as discussed in regards to Claim 1 and that the central portion (seen as the bottom portion of the central part of S in figure 1) defines a hole (seen as the two chambers formed above the surface) that is capable of receiving a fastener therein that is capable of attaching the

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

expansion spring to a support member that supports the bottom surface of the adjacent sections of the structure thereon.

The Office Action stated that the Examiner is now viewing the recited first generally planar member as the upper planar surface of sealing strip S in Figure 1 of Baerveldt, therefore meeting the limitation of the second and third members (seen as retaining elements 2) being spaced below the first member.

Applicants very respectfully traverse.

A. THE BAERVELDT REFERENCE

US patent no. 5,338,130 to Baerveldt discloses an extruded thermoplastic elastomer expansion joint. Referring to Figure 1 of Baerveldt, the invention of Baerveldt is a nosing (that is, an expansion joint retainer) for a flexible expansion joint for spanning the gap between adjacent slabs of, for instance, a parking deck or bridge deck.

It is important to note that the extruded thermoplastic elastomer expansion joint of Baerveldt is merely a non-structural, non-load bearing seal.

A joint utilizing the invention of Baerveldt includes a flexible strip seal S. Baerveldt, column 2, lines 39-43. The slabs adjacent the joint along the edges have a rectangular groove formed therein. The sealing strip S is laid on the lowermost surface of the groove, and may be additionally fastened thereto with an adhesive. *Id.*, column 2, lines 49-53.

At regular intervals in each groove are positioned anchor bolts B, or threaded bolts, embedded into the slab in the groove. The anchor bolts extend through apertures in the strip seal S and similar apertures in the nosings. *Id.*, column 2, lines 54-58.

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

Each nosing is dimensioned to fit in a typically dimensioned groove in the slab. Each nosing is manufactured as a co-extrusion of a main body element 1 and a retaining element 2. *Id.*, column 2, lines 59-64.

The anchor bolt B extends through pre-drilled holes in the retaining element. Above such pre-drilled holes, the material of the main element 1 is bored away to permit emplacement and tightening of a washer and a nut on the anchor bolt B. *Id.*, column 3, lines 5-9.

The only disclosed or suggested positioning of the nosing is on top of the unlabeled slabs. To that end, in reference to Figures 1 and 2 Baerveldt discloses that “[a] deflector element 3 of the same material as the retainer may also be co-extruded as an integral part of the nosing. This deflector protects the relatively more pliable material of the main body of the nosing from being damaged by snowplows.” *Id.*, column 3, lines 10-14. Further, referring to Figure 6, Baerveldt discloses that “after the anchor bolts are embedded in the edge of the concrete, the elastomeric seal is set down in a nosing having a height substantially equal to the desired depth of asphalt, and constructed according to FIG. 6 is bolted into place over the seal. Asphalt is then applied to the desired depth, directly over the retaining element and up to the edge of the top surface of the main body.” *Id.*, column 4, lines 2-8.

It is important to note that the extruded thermoplastic elastomer expansion joint of Baerveldt does not discuss or suggest any sharing of load. Thus, when one side of the extruded thermoplastic elastomer expansion joint of Baerveldt is loaded, that loaded side is pushed down and the other section on the other, unloaded side is raised above the seal. This flexibility is achieved by design – the strip S is a flexible strip (and merely a seal strip, at that). Baerveldt notes this shortcoming of one side lowering under load and the other, unloaded side rising up by admitting that “[t]his deflector protects the relatively more pliable material of the main body of the nosing from being damaged by snowplows.” The reason why a snowplow can damage the main body of the nosing is because when a snowplow loads down one side of the extruded thermoplastic elastomer expansion joint of Baerveldt, that loaded side is pushed down and the nosing on the other, unloaded side is raised above the seal. Thus, the raised nosing is in the travel path of a blade of a

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

snowplow and can be swept or clipped by the blade of the snowplow as the snowplow travels over the surface of the structure.

Finally, Baerveldt emphasizes the importance of making the Baerveldt nosing in one piece as an extrusion. Baerveldt states that a “drawback with including a steel plate in the [prior art] nosing is that it makes it necessary to mold the nosings in discrete segments, with the steel insert set in the nosing during the molding process.” *Id.*, column 1, lines 41-44. To that end, it is an object of Baerveldt “to provide an extrudable nosing with an integrally formed stiffening and reinforcing portion.” *Id.*, column 1, lines 55-57. Baerveldt explains details of providing an extrudable nosing with an integrally formed stiffening and reinforcing portion as follows:

Each nosing...is manufactured as a co-extrusion of a main body element 1 made from a thermoplastic rubber material such as SANTOPRENE™ by Monsanto Company and a retaining element 2 made from a higher durometer thermoplastic material such as medium, high, or ultra high density polyethylene. The material of the retaining element will be chemically and thermally fused to that of the main element during the co-extrusion process, and will become integral with the main body, thereby providing a one piece nosing which may be extruded rather than molded. Accordingly, the nosings of the present invention may be provided in any desired length. *Id.*, column 2, line 59 – column 3, line 4.

Thus, Baerveldt provides an extrudable nosing with an integrally formed stiffening and reinforcing portion. The extruded, integrally-formed flexible strip seal S has a center portion and overhanging portions. The center portion of the flexible strip seal S (referred to in the Office Action as “the expansion portion of the sealing strip S”) is interposed between the two (unlabeled) slabs. No supporting structure under the unlabeled slabs is disclosed, and therefore no attachment to supporting structure can be disclosed. Further, overhanging portions of the flexible strip seal S are received on top of an upper face of the unlabeled slabs and attached to the top of the unlabeled slabs.

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

B. CLAIMS 1-14 ARE NOT ANTICIPATED BY THE BAERVELDT REFERENCE

Applicants very respectfully submit that Claims 1-14 are not anticipated by Baerveldt. As will be discussed below, Applicants respectfully submit that Baerveldt neither teaches nor suggests all of the claim limitations recited in Claims 1-14.

As discussed above, the extruded thermoplastic elastomer expansion joint of Baerveldt is merely a non-structural, non-load bearing seal. To that end, the extruded thermoplastic elastomer expansion joint of Baerveldt does not discuss or suggest any sharing of load. Thus, when one side of the extruded thermoplastic elastomer expansion joint of Baerveldt is loaded, that loaded side is pushed down and the other section on the other, unloaded side is raised above the seal. This flexibility is achieved by design – the strip S is a flexible strip (and merely a seal strip, at that).

To achieve this flexibility, the flexible strip seal S is laid directly onto the lowermost surface of the groove of the slab. The retaining elements 2 are placed over the flexible sealing strip S. Anchor bolts B are secured to the slabs through apertures in the retaining elements 2 and the flexible strip seal S.

Nothing in this arrangement according to Baerveldt can or does transfer load from one slab to another slab on the other side of the flexible strip seal S. This deficiency is due, in part, to the intentional design of Baerveldt that merely uses the flexible strip seal S. This deficiency is also due, in part, to a complete lack of any path, such as structural members between the flexible strip seal S to the retaining elements, to transfer load from one side of the flexible strip seal S to the other side of the flexible strip seal S.

To the contrary, the expansion joints of Claims 1 and 11, as amended, do not share this deficiency with Baerveldt. Advantageously, when load is presented across an expansion gap that is bridged by the expansion joint of Claim 1 or Claim 11, as amended, the load is presented onto the expansion joint at the first member and is evenly distributed. Thus, unlike the non-load-carrying flexible seal of Baerveldt, the expansion joint of Claim 1 or 11 provides structural support for

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

adjacent panels in both vertical and lateral directions, yet allows expansion in the longitudinal direction.

This even distribution of load is achievable because the expansion joint of Claim 1, as amended, recites “a load carrying expansion joint” that includes “a first load-bearing support member” including “a first generally planar structural member”, “second and third generally planar structural members”, and “fourth and fifth structural members that connect the first member with the second member and the first member with the third member, respectively”, and “an expansion device that provides a lateral connecting structure between the second and third members”. However, as discussed above, the flexible, non-load-bearing, extruded thermoplastic elastomer expansion joint of Baerveldt can not, and does not, teach or suggest “a load carrying expansion joint”, or “a first load-bearing support member” including “a first generally planar structural member”, or “second and third generally planar structural members”, or “fourth and fifth structural members that connect the first member with the second member and the first member with the third member, respectively”, or “an expansion device that provides a lateral connecting structure between the second and third members”.

Moreover, this even distribution of load is achievable because the expansion joint of Claim 11, as amended, recites “a load carrying expansion joint” including “a first composite support member” including “a first generally planar composite member”, “second and third generally planar composite members”, and “fourth and fifth composite members that connect the first member with the second member and the first member with the third member, respectively”, and “an expansion device that provides a lateral connecting structure between the second and third members”. However, as discussed above, the flexible, non-load-bearing, extruded thermoplastic elastomer expansion joint of Baerveldt can not, and does not, teach or suggest “a load carrying expansion joint”, or “a first composite support member” including “a first generally planar composite member”, or “second and third generally planar composite members”, or “fourth and fifth composite members that connect the first member with the second member and the first member with the third member, respectively”, or “an expansion device that provides a lateral connecting structure between the second and third members”.

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

Because Baerveldt neither teaches nor suggests all of the claim limitations of Claims 1 and 11, as amended, Applicants very respectfully submit that Claims 1 and 11, as amended, are not anticipated by Baerveldt and are in condition for allowance. Applicants very respectfully request entry of the amendment, and reconsideration and allowance of Claims 1 and 11.

Claims 2-10 depend from Claim 1 and Claims 12-14 depend from Claim 11. By virtue of their dependency and for other reasons, Applicants respectfully submit that Claims 2-10 and 12-14 are not anticipated by Baerveldt and are in condition for allowance. Applicants respectfully request entry of the amendment, and reconsideration and allowance of Claims 2-10 and 12-14.

IV. NEW CLAIMS 34-37

New Claims 34-37 have been added. New Claims 34-37 highlight the distinctions of a load-bearing expansion joint from the flexible, non-load-bearing strip seal of Baerveldt as discussed above. For reasons similar to those discussed above for Claims 1-14, Applicants respectfully submit that new Claims 34-37 are allowable. Applicants respectfully request entry of the Amendment, and consideration and allowance of new Claims 34-37.

Application No. 10/607,947
Amendment dated February 6, 2006
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

V. CONCLUSION

In view of the above amendments and arguments, Applicants very respectfully submit that all claims pending in the patent application are in condition for allowance. Claims 1 and 11 have been amended to overcome the rejection under 35 U.S.C. § 112, ¶ 2 and to overcome the objection due to informalities. Claims 1-14 and new Claims 34-37 are not anticipated by Baerveldt. Thus, all claims that are pending in the patent application are in condition for allowance. Applicants very respectfully request entry of the Amendment, reconsideration and allowance of Claims 1-14, consideration and allowance of new Claims 34-37, and passage of the patent application to issuance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 503048, under Order No. BA1-02-0395 (02-0395) from which the undersigned is authorized to draw.

Dated: February 6, 2006

Respectfully submitted,

By 

Robert R. Richardson

Registration No.: 40,143

ROBERT R. RICHARDSON, P.S.

P.O. Box 2677

Silverdale, Washington 98383-2677

(360) 692-0626

Attorney for Applicant